



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/689,775	10/20/2003	Han-Ting Chang	2002-061R1	4543

22905 7590 06/30/2006

SYMYX TECHNOLOGIES INC  
LEGAL DEPARTMENT  
3100 CENTRAL EXPRESS  
SANTA CLARA, CA 95051

EXAMINER
----------

CHEUNG, WILLIAM K

ART UNIT	PAPER NUMBER
----------	--------------

1713

DATE MAILED: 06/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/689,775

Applicant(s)

CHANG ET AL.

Examiner

William K. Cheung

Art Unit

1713

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 16 June 2006.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-9, 12-19, 22 and 23 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-9, 12-19, 22 and 23 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

1. Claims 1-9, 12-19, 22, 23 are pending.

### *Double Patenting*

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claims 1-9, 12-19, 22, 23 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-20 of U.S. Patent No. 6,395,850. Although the conflicting claims are not identical, they are not patentably distinct from each other because the invention of claims 1-20 of U.S. Patent No. 6,395,850 fully encompasses the invention of Claims 1-9, 12-19, 22, 23 of instant application.

Art Unit: 1713

4. Claims 1-9, 12-19, 22, 23 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 8-16, 20-26 of U.S. Patent No. 6,767,968. Although the conflicting claims are not identical, they are not patentably distinct from each other because the invention of claims 8-16, 20-26 of U.S. Patent No. 6,767,968 fully encompasses the invention of Claims 1-9, 12-19, 22, 23 of instant application.

5. Claims 1-9, 12-19, 22, 23 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-13 of U.S. Patent No. 6,569,969. Although the conflicting claims are not identical, they are not patentably distinct from each other because the invention of claims 1-13 of U.S. Patent No. 6,569,969 fully encompasses the invention of Claims 1-9, 12-19, 22, 23 of instant application.

Applicant's arguments filed November 28, 2005 have been fully considered but they are not persuasive. Applicants argue that the instantly claimed invention is not anticipated by claims 1-20 of U.S. Patent No. 6,395,850, claims 8-16, 20-26 of U.S. Patent No. 6,767,968, and claims 1-13 of U.S. Patent No. 6,569,969 because claims 1-20 of U.S. Patent No. 6,395,850, claims 8-16, 20-26 of U.S. Patent No. 6,767,968, and claims 1-13 of U.S. Patent No. 6,569,969 are silent on the specific type of monomers in the presence of dithio control agents being claimed. However, the examiner disagrees

because the monomers being claimed are not specific but rather broad in teachings. Applicants must recognize that monomers are generally hydrophilic or hydrophobic, and olefins are generally hydrophobic. In view of such limited species, the ODP set forth is proper.

Regarding applicants argument that the claimed method invention involves making a block copolymer which can modify the surface tension of an olefinic substrate by an amount of at least 10 mN/m with the claimed block copolymer, applicants fail to recognize that the claimed "modify the surface tension of an olefinic substrate by an amount of at least 10 mN/m with the claimed block copolymer" is a property that can be inherent to the copolymers of claims 1-20 of U.S. Patent No. 6,395,850, claims 8-16, 20-26 of U.S. Patent No. 6,767,968, and claims 1-13 of U.S. Patent No. 6,569,969. Therefore, the ODP set forth is proper.

Applicant's arguments filed June 16, 2006 have been fully considered but they are not persuasive. Applicants argue that the instantly claimed invention should be allowable because by claims 1, 12 have been amended to include a positive method step of modifying the surface tension of an olefinic substrate by an amount of at least 10 mN/m with the block copolymer. However, the examiner disagrees because the amended features do not relate to the "method of preparing a block copolymer" as claimed. Therefore, the amended features are still considered as properties of the block

Art Unit: 1713

copolymers prepared by the method invention as claimed. Therefore, the ODP set forth is proper.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-9, 12-19, 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Charmot et al. (US 6,395,850) for the reasons adequately set forth from paragraph 8 of the office action of May 17, 2006.

Applicant's arguments filed June 16, 2006 have been fully considered but they are not persuasive. Applicants argue that the instantly claimed invention should be allowable because by claims 1, 12 have been amended to include a positive method step of modifying the surface tension of an olefinic substrate by an amount of at least 10 mN/m with the block copolymer. However, the examiner disagrees because the amended features do not relate to the "method of preparing a block copolymer" as claimed. Therefore, the amended features are still considered as properties of the block copolymers prepared by the method invention as claimed.

Regarding applicants' argument that the examples in Charmot et al. only involve homopolymerization, applicants fail to recognize that Charmot et al. (col. 14-16, claims 1-20, particular claim 7) also teach a great deal on the copolymerization using the disclosed dithio-containing control agent.

Regarding applicants' argument that the examiner fails to address the recited "at least partially hydrogenating said random block" of claim 22, however, applicants fail to recognize that the recited "at least partially hydrogenating said random block" of claim 22 as written is a result or property that is inherent to the copolymers from the claimed steps of "polymerizing a hydrophilic monomer under free radical polymerization conditions in the presence of a dithio-containing control agent to create said at least one hydrophilic block and subsequently reacting said at least one hydrophilic block with at least one olefinic monomer and one monomer that is hydrophilic with respect to the olefinic monomer". Therefore, the examiner has a reasonable basis to believe that the claimed "at least partially hydrogenating said random block" carries very little weight in patentability. Applicants must recognize that claim 22 is completely silent on a process comprising a diolefin. Therefore, the recited "at least partially hydrogenating said random block" could only be result from the copolymerization of the hydrophilic block in the presence of an unique comonomer. The rejection of claim 22 along with claim 1 is proper.

**Claim 22**

*A method of preparing a block copolymer having at least one **hydrophilic block** and the structure A-R, wherein R represents a random block comprising at least **two monomers**, the method comprising*

*polymerizing a hydrophilic monomer under free radical polymerization conditions in the presence of a dithio-containing control agent to create said at least one **hydrophilic block** and subsequently reacting said at least one hydrophilic block with at least one olefinic monomer and one monomer that is hydrophilic with respect to the olefinic monomer capable of free radical polymerization under polymerization conditions to form said at least one **random block**, and at least partially hydrogenating said random block.*

**Conclusion**

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

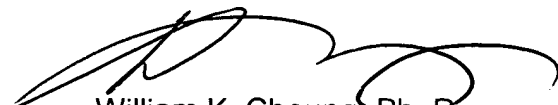
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.



Any inquiry concerning this communication or earlier communications from the examiner should be directed to William K. Cheung whose telephone number is (571) 272-1097. The examiner can normally be reached on Monday-Friday 9:00AM to 2:00PM; 4:00PM to 8:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David WU can be reached on (571) 272-1114. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



William K. Cheung, Ph. D.

Primary Examiner

June 23, 2006

**WILLIAM K. CHEUNG  
PRIMARY EXAMINER**